

TO ME TO WHOM THESE PRESENTS; SHAME, COMES

UNITED STATES DEPARTMENT OF COMMERCEREC'D 15 OCT 2004

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August 16, 2004

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

> APPLICATION NUMBER: 60/487,929 FILING DATE: July 18, 2003

PRIORITY DOCUMENT

SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)

Certified by

Jon W Dudas

Acting Under Secretary of Commerce for Intellectual Property and Acting Director of the U.S. Patent and Trademark Office



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	PTO/SE:18 (8-00) Approved for use through 10/31/2002. OME 0851-0032 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE of the Paperwork Reduction Act of 1885, no persons are required to respond to a collection of information unless it displays a valid OMB control number.	CFO
PROVISIONAL APPLICATION FOR PATENT COVER SHEET This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).		

£		INVENTOR	(S)	•				
Given Name (first and middle	[if any]) Family	Family Name or Sumame		Residence (City and either State or Foreign Country:				
to follow								
Additional inventors are	being named on the	separately numb	pered sheets attach	ed hereto				
	TITLE OF	THE INVENTION (280 characters ma	ax)				
WET ELECTROSTATIC PREC	IPITATOR SYSTEM C	OMPONENTS						
Direct all correspondence to: CORRESPONDENCE ADDRESS								
Customer Number	24223		· · · · · · · · · · · · · · · · · · ·					
OR	Type Customer Num	ber here	1 , .	<u></u>	COOPLAND THE PARTY OFFICE			
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FZ 2 (8 1)		PLICATION PARTS	S (check all that a	oply)				
Specification Number of	<u></u>		CD(s), Numb	per {				
Drawing(s) Number of S			Other (speci	fy)	card			
Application Data Sheet. S	ee 37 CFR 1.76			[rost	cara			
METHOD OF PAYMENT OF F	iling fees for thi	S PROVISIONAL A	PPLICATION FOR	PATENT (ch	eck one)			
Applicant claims small entity status. See 37 CFR 1.27, FILING FEE .								
A check or money order is enclosed to cover the filing fees AMOUNT (\$)								
The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number \$80.00								
Payment by credit card. Form PTO-2038 is attached.								
The invention was made by an agency of the United States Government or under a contract with an agency of the								
United States Government. No.								
Yes, the name of the U.S. Government agency and the Government contract number are:								
Respectfully submitted,	e Stimes	•	Date	18-Jul-03				
SIGNATURE huh	of Johns		REGI	STRATION N	0. 24.973			

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

(if appropriate) Docket Number:

TYPED or PRINTED NAME Michael I. Stewart

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This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the inclividual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents. Washington, D.C.

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4823-70 MIS:jb

WET ELECTROSTATIC PRECIPITATOR SYSTEM COMPONENTS

FIELD OF INVENTION

The present invention relates to the removal of moisture from a gas stream. In particular, the present invention is a novel device at or in the discharge portion of a Wet Electroststic Precipitator (WESP), removing free moisture from the saturated gas stream exiting therefrom.

BACKGROUND TO THE INVENTION

[0002] Wet electrostatic precipitators have been used for many years to remove dust, acid mist or other particles from saturated air and other gases by electrostatic means. Briefly, in a WESP, particulate and/or mist laden gas flows in a region of the precipitator between discharge and collecting electrodes, where the particulate and/or mist is electrically charged by corona emitted from the high voltage discharge electrodes. As the saturated gas flows further within the WESP, the charged particulate matter and/or mist is electro-statically attracted to grounded collecting plates or electrodes where it accumulates and is washed off by an irrigating film of water. This type of system is used to remove air pollution from various industrial sources such as incinerators, coke ovens, glass furnaces, non-ferrous metallurgical plants, coal-fired power generation plants, forest product facilities, food drying plants, petrochemical plants and the like.

[0003] There is a need to collect and remove free moisture from the gas stream exiting a WESP.

SUMMARY OF INVENTION

[0004] It is an object of an aspect of the invention to provide a novel collection hood to collect and remove free moisture from the gas stream exiting a WESP.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] A detailed description of the preferred embodiments are provided herein below with reference to the following drawings in which:

1 .

[0006] Figure 1 is an elevation cross-section of the novel hood.

[0007] In the drawings, preferred embodiments of the invention are illustrated by way of example. It is to be expressly understood that the description and drawings are only for the purpose of illustration and as an aid to understanding, and are not intended as a definition of the limits of the invention.

GENERAL DESCRIPTION OF INVENTION

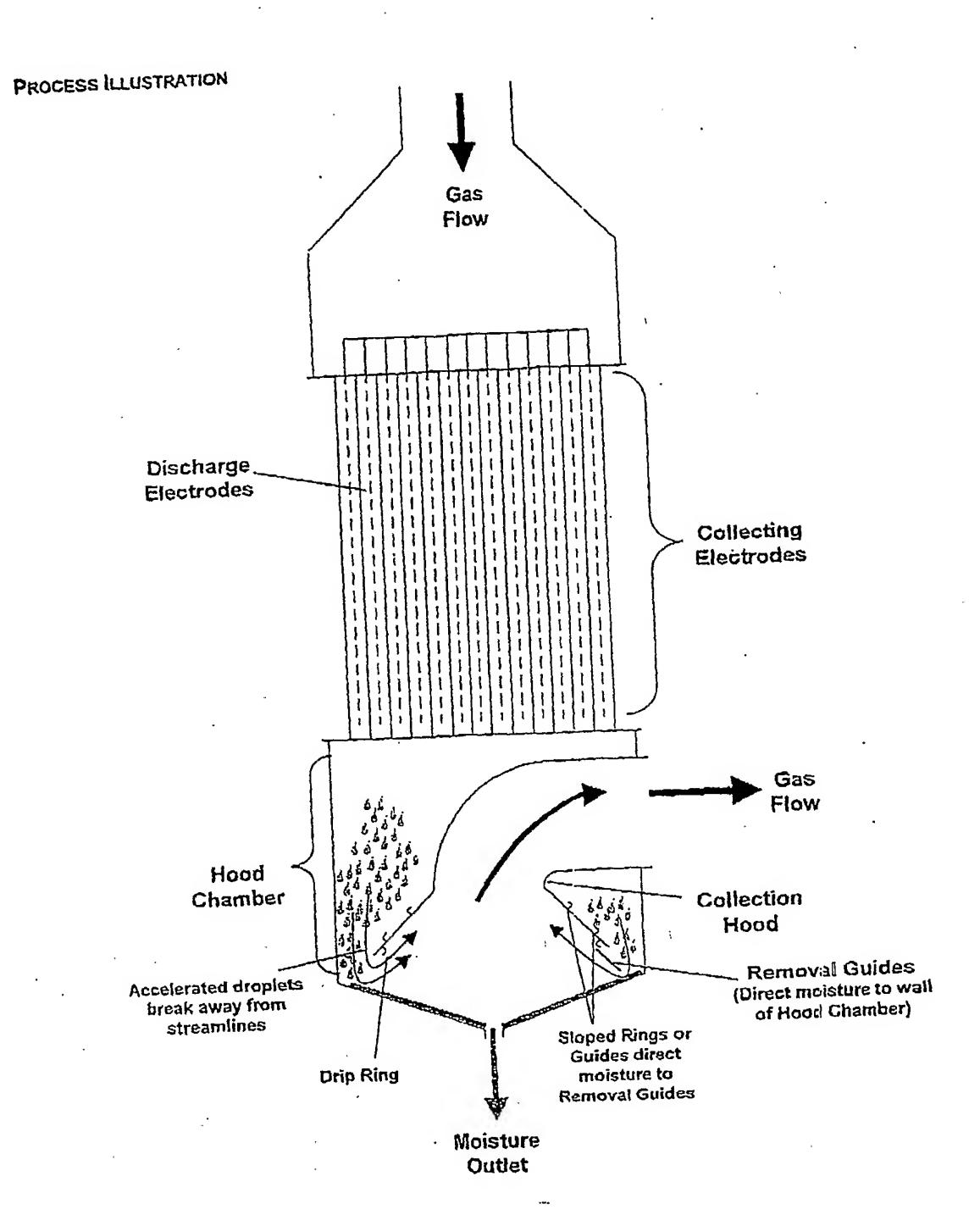
In the device, illustrated in figure 1, accelerates the gas flow, causing droplets of free moisture to accelerate downward and then break free of the streamlines as the gas stream turns approximately 180 degrees before exiting the hood chamber.

[0009] The problem of moisture moving down the hood, dripping off the edge of the hood and being swept into the existing gas stream, is climinated by a series of drip rings or guides, which route the moisture on the hood to removal guides. The removal guides then direct the moisture to the wall of the chamber for removal. These guides can also be used for structural support. Flow guides are also placed inside the hood to enhance the collection.

SUMMARY OF DISCLOSURE

[0010] In summary of this disclosure, the present invention provides a novel hood for co-operation with wet electrostatic precipitators.

[0011] Although preferred embodiments have been described herein in detail, it is understood by those skilled in the art that variations may be made thereto without departing from the scope of the invention.



INITIAL INFORMATION DATA SHEET

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Postal or Zip Code:
Citizenship Country:

Correspondence Information

Correspondence Customer Number: 24,223

Application Information

Title Line One:

WET ELECTROSTATIC PRECIPITATOR

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SYSTEM COMPONENTS

Title Line Two:
Total Drawing Sheets:

1 (One)

Total Drawing Snee Application Type: Docket Number: Utility Patent 4823-70 MIS:jb

Representative Information

Registration Number:

24,973